Northwestern Michigan College

Office of Institutional Research

To: Stephen Siciliano
CC: ESIMT, CWAT
From: Darby Hiller
Date: May 13, 2003
Subject: Curriculum Commitment to the General Education Outcomes (addendum to Graduate Exposure to General Education Outcomes, 4/16/03)

In a previous report (Graduate Exposure to General Education Outcomes, 4/16/03), I found that NMC's graduates in Spring 2002 and Fall 2003 (N=294, courses=5800) had been exposed to the communication and critical thinking outcomes an average of six times throughout their coursework. Exposure to the cultural perspectives outcome was considerably less (average of two courses). That report sparked additional questions. This addendum provides answers to those questions with additional analyses.

The Graduate Exposure report showed that the minimum level of exposure in any outcome at any level was zero courses for our graduates (Table 1). This means that it is possible that a graduate could get by without having exposure to one or more of our general education outcomes. For this extra analysis I focused on Spring 2002 graduates only. The population consists of 190 students graduating with an AA, AS, AAS, or ADN (courses=4694). The data show that six students (3.2%) graduated without exposure to at least one general education outcome regardless of level. When looking by level at our Spring 2002 graduates, one can see that cultural perspectives is the least represented in our students' coursework experience (Table 2). It is important to note that exposure to general education outcomes or lack of exposure is not a measure of student achievement of these skills. Level of achievement within these skills is assessed in other various ways at NMC. This analysis is to address the pervasiveness of the outcomes throughout our curriculum.

I assessed curriculum commitment to the general education outcomes through an analysis of the fall 2003 course offerings. The population includes all academic courses for fall 2003 except PE and applied music courses (N=367). Twenty-five percent of those courses do not support any level of any outcome (Table 3). Thirty-nine percent support only one level of one outcome.

When broken into outcome levels (Table4), the third level of an outcome is usually supported by the fewest courses. For instance, communications level 3 is supported by 7.9% of the courses compared with 37.3% supporting level 1. Students can potentially experience cultural perspectives level 3 from only seven courses in the fall. Moreover, two of those seven are nursing courses, which are restricted to nursing students. Another two of those courses are 200 level English courses that have a 100 level English prerequisite. Students do not have an equal likelihood of experiencing courses that support levels 2 and 3 of our general education outcomes as level 1 courses.

Additionally, I have provided a table that breaks the fall 2003 course offerings down by academic area (Table 5).

One of the questions that has been asked but that is difficult to answer is whether a set target should be created with respect to the number of times a student is exposed to the different outcome levels and what that target number ought to be. Hypothetically, if we had created a target of two exposures to each outcome level last year, we would have failed as many as 75.3% of our spring 2002 graduates. Had the target been three exposures to every level, our curriculum would have failed 92.1% of our graduates. Conversely, if the levels were combined resulting in three stand alone outcomes (versus nine), we would have met a target of at least two exposures in each outcome for 92.6% of our spring 2002 graduates. In fact, with as many as five exposures to each outcome, our curriculum would have served a majority (64.5%) of our graduates.

Currently the outcome rubrics are written so that each level is a unique outcome. However, generally the skill levels build on one another. That makes keeping the levels as unique outcomes inappropriate. Also, it makes instructors unwilling or unable to select a higher level of an outcome to support in their courses. Therefore, I have two suggestions with regard to the issue of establishing exposure targets for our graduates. First, if the rubrics remain as they are with nine separate outcome levels, either set targets need to be scaled within the levels or no targets should be set at all. By scaled within the levels, I mean, for example, that exposure targets could be identified in the following way: critical thinking 1 target = ten times, critical thinking 2 target = five times, and critical thinking 3 target = three times, or something similar. My second suggestion, and more preferable, is to eliminate the requirement for an instructor to pick an outcome level to support in his or her course. Instructors can choose one, two, or three outcomes to support, and in most cases there are obvious choices. Then through the assessment process we will learn at what level our students are performing. In fact, the format for the rubrics with which we assess student work can remain the same. It would be more appropriate then, if exposure targets are set, to make our exposure target a single number for every outcome. For instance, curriculum commitment to our general education outcomes can mean that our graduates, who represent an educational package, experience each of those outcomes at least six times throughout their coursework.

In this way, instructors may be more willing to support an outcome and provide artifacts, without having to assert that their students will be able to perform at a certain level. It seems that the process, as it stands now, is threatening to instructors who perceive that if their students do not perform well it is a reflection on the instructor. Thus, instructors are apprehensive of declaring that their course includes the skills at level 3 of an outcome. Instructors have been most willing to select critical thinking 3 (74 courses), even though that has been the most difficult level to assess according to the artifact scoring teams. So, changing the process would be beneficial, in that instructors would feel less threatened, general education would be better supported, assessment of student performance would be more straightforward, and, ultimately, the students would be better served in an environment of continuous improvement.

The data for this analysis are available from the Office of Institutional Research. Additionally, frequency tables are available for viewing in the IR public folder on the shared drive. Please contact, Darby Hiller, with questions regarding this report.

Tables

Table 1. Spring 02/Fall 03 Graduate Outcome Exposure	Minimum	Maximum	Mean	Std. Deviation
COM1	0	33	9.42	4.516
COM2	0	17	5.31	2.997
COM3	0	8	2.35	1.724
Communications	0	19.3	5.69	
CT1	0	20	8.26	3.632
CT2	0	16	5.32	2.608
CT3	0	15	5.18	3.144
Critical Thinking	0	17	6.25	
CP1	0	13	3.75	2.579
CP2	0	7	1.77	1.261
CP3	0	5	1.11	.785
Cultural Perspectives	0	9.3	2.21	

Table 2. Minimum Graduate Exposure	% of graduates with at least three courses that support a given outcome	% of graduates with at least two courses that support a given outcome
Communications		
COM1	92.6	99.5
COM2	85.3	93.7
COM3	35.8	68.4
Critical Thinking		
CT1	95.8	98.9
CT2	91.1	97.4
CT3	76.8	87.4
Cultural Perspectives		
CP1	60.0	83.7
CP2	28.4	47.4
CP3	12.6	30.5

Table 3. Distribution of Outcome Support of Fall 2003 Course Offering			
Number of outcome levels supported	Number of courses supporting certain outcome levels	Percent of courses	Cumulative Percent
0	93	25.3	25.3
1	143	39.0	64.3
2	73	19.9	84.2
3	29	7.9	92.1
4	15	4.1	96.2
5	7	1.9	98.1
6	3	.8	98.9
7	4	1.1	100.0
Total	367	100.0	

Table 4. Fall 2003 Curriculum Commitment to Outcomes		
Outcome	Number of courses supporting each level	Percent of courses supporting (N=367)
COM1	137	37.3%
COM2	41	11.2%
COM3	29	7.9%
CT1	112	30.5%
CT2	51	13.9%
CT3	74	20.2%
CP1	51	13.9%
CP2	15	4.1%
CP3	7	1.9%

Table 5. Outcome Level Support by Academic Area (Fall 2003)			
Academic Area	Number of supported outcome levels	Number of courses	Percent
Aviation	0	8	66.7
	3	2	16.7
	4	1	8.3
	5	1	8.3
	Total	12	100.0
Business	0	13	19.7
	1	32	48.5
	2	10	15.2
	3	8	12.1
	4	2	3.0
	7	1	1.5
	Total	66	100.0
Communications	0	6	18.8
	1	2	6.3
	2	3	9.4
	3	9	28.1
	4	6	18.8
	5	4	12.5
	7	2	6.3
	Total	32	100.0
Health Occupations	0	9	25.7
	1	11	31.4
	2	6	17.1
	3	4	11.4
	4	3	8.6
	5	1	2.9
	6	1	2.9
	Total	35	100.0

Humanities	0	17	32.7
	1	17	32.7
	2	11	21.2
	3	2	3.8
	4	3	5.8
	6	2	3.8
	Total	52	100.0
Maritime	0	8	34.8
	1	9	39.1
	2	6	26.1
	Total	23	100.0
Science and Math	0	4	10.8
	1	13	35.1
	2	20	54.1
	Total	37	100.0
Social Sciences	0	2	5.3
	1	18	47.4
	2	13	34.2
	3	3	7.9
	5	1	2.6
	7	1	2.6
	Total	38	100.0
Technical	0	26	36.1
	1	41	56.9
	2	4	5.6
	3	1	1.4
	Total	72	100.0